Pest Update (December 14, 2012)

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of dying plants or insects from other states. If you live outside of South Dakota and have a question, instead please send a digital picture of the pest or problem. **Walnut samples may not be sent in from any location – please provide a picture!**

Available on the net at:
http://sdda.sd.gov/Forestry/Educational-Information/PestAlert-Archives.aspx

Any treatment recommendations, including those identifying specific pesticides, are for the convenience of the reader. Pesticides mentioned in this publication are generally those that are most commonly available to the public in South Dakota and the inclusion of a product shall not be taken as an endorsement or the exclusion a criticism regarding effectiveness. Please read and follow all label instructions and the label is the final authority for a product's use on a particular pest or plant. Products requiring a commercial pesticide license are occasionally mentioned if there are limited options available. These products will be identified as such but it is the reader's responsibility to determine if they can legally apply any product identified in this publication.

Current Concerns
Frost cankers and cracks…… 1
E-samples
Fabric girdling trees…… 2
Cytospora canker on spruce…… 3

Frost cankers and cracks on ornamental trees; wrap or don't wrap? I received a question this week on the benefit of wrapping trees to prevent winter injury, specifically splitting of trunks. This splitting is either due to a frost canker or a frost crack.

A frost canker, sometimes called sunscald injury, is a shallow split in the bark extending into the cambial zone and forms as a result of extreme temperature fluctuations. While these cankers are more common on the southwest side of the tree, hence the name "Southwest disease", they can occur on any

side of the trunk. The problem occurs when tissue that is beginning to deacclimate – losing its cold hardiness – is exposed to cold temperatures during late winter nights. The tender bark and cambial tissue is killed. This is most common on thin-barked trees, crabapples, lindens and maples in our region, but is more related to stress then species. Moisture stress, during the previous summer and fall, is most often correlated to frost cankers, so drought and transplanting are two key stress factors in the occurrence of this disorder.

Frost cracks are deep, longitudinal cracks that appear on the lower trunks of trees (as pictured on page 1). While referred to as frost cracks, the origin of the crack is not related to frost or cold but an injury to the trunk. The genesis of the crack is a wound to the trunk; grass-whip, lawn mower, improper pruning; and this result in a structural weakness in the trunk. When the trunk is exposed to warm winter days that are followed by a rapid temperature change in the evening, the crack ruptures to the surface. Frost cracks almost always appear on the southwest side of the tree as this is the area of the trunk that may experience temperature changes of 20 to 30^{o}F or more from a sunny winter day to a clear winter evening – when you hear them split its sounds like a rifle shot. Frost cracks are most common on the same species as frost cankers but may also be found on thicker barked trees such as oaks and walnut.

Will wrapping trees during the winter help? It might, but keep in mind that moisture stress and wounding are the two key factors in the formation of cankers and cracks. Wrapping with paper or plastic wrap may not prevent temperature fluctuations; in fact it may actually cause a more rapid temperature change according to research done in neighboring Minnesota. In addition, if the wrap is left on into the next growing season it may trap moisture creating a favorable habitat for pests. Left on even longer it can girdle the tree. Wrap or don't wrap? Don't since the problems of leaving it on too long outweighs the small benefit of winter protection, but do make sure the trees are receiving adequate water during the growing season and do not wound the trunk – these are the means to reduce frost cankers and cracks.

E-samples

I received a number of pictures during the last couple of weeks and one illustrates a common problem associated with the use of **fabric on trees**. During the past decade there have been numerous reports of fabric girdling trees. Usually the trees have been in the ground for 8 to 12 years and fabric is either covered with soils and litter so the problem is missed.

The fabric does not tear or break down and as the tree continues to expand it become girdled. The picture shows a spruce that broke at the base and fell over revealing the griddled trunk.

I also received a picture of a spruce with the lower branches dying. This has been a common picture sample this year and usually when I visit the site these dying branches are covered with the bluish-white resin blisters associated with **cytospora canker**. The canker kills the lower branches so affected spruce often have lost their lower branches to a height of 6 to 10 feet or more. The disease is more commonly associated with trees that are about 15 to 25 years old and also trees stressed by heat or drought. We certainly had the heat and drought stress this year and most of the trees that people brought samples in were trees about 20 years old. The only control, other than keep the tree healthy by watering, is to prune out the dying branches.